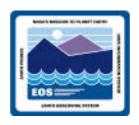


ECS Integration and Test Teraisa Patterson

3 November 1995

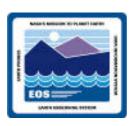
Agenda



ECS Integration and Test

- Build-Thread Integration Test Plan
- Integration and Test Schedule
- Test Platforms
- Tools
- Test Data

Test Documents & Home Page



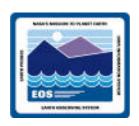
ECS Integration and Test Documents

- 307/329-CD-004-001 Rel B SDPS Dev/Rel Plan for ECS Project
- 307/329-CD-005-001 Rel B CSMS Dev/Rel Plan for ECS Project
- 319/402-CD-003-001 Rel B Segments/System Integration and Test Plan for the ECS Project
- 403-CD-002-001 Rel B Verification Specification for the ECS Project

Home Pages

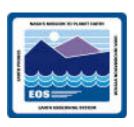
- IDR-B: http://edhs1.gsfc.nasa.gov/waisdata/toc/idrb_cdrtoc.html
- Release B: http://newsroom.hitc.com/relmgt/open/RelsB/Docs.html
- I&T-B: http://newsroom.gsfc.nasa.gov/relmgt/open/RelsB/I_and_T.html

Rel B SDPS/CSMS Test Objectives



- To verify ECS System Operations to Include:
 - Data Ingest and Validation
 - On-Demand Production
 - Accounting and Billing
 - Client/User System Access
 - LIM and DIM
 - SMC Security
 - Fault and Performance Management
 - System Operability
 - Multi-DAAC Planning and Scheduling
 - Management Logistics
 - Release A Regression Testing

Rel A vs. Rel B Functionality



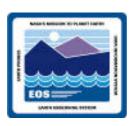
Release A

- N/A
- Basic local management
- Minimal processing
- SMC capabilities are mainly performed manually
- N/A
- N/A
- Inter-DAAC Planning and Scheduling
- Simple data searches

Release B

- Account and Billing
- LIM and DIM
- On-Demand Production
- SMC security, fault, and performance management are automated
- Subsetting and Subsampling
- Subscriptions
- Multi-DAAC Planning and Scheduling
- More complex data searches, i.e. coincident searches across data sets.

Build/Thread Methodology



Build/Thread Methodology

- Detailed description can be found in 319/402-CD-003-001 Rel B Segments/System Integration and Test Plan for the ECS Project
- Builds and Threads are defined by examining operational concepts,
 Level 3 and Level 4 requirements and system design specifications.
- The Thread/Build Diagram acts as the basis for definition of test cases.
- Test cases provide the basis for development of detailed build and thread test procedures.

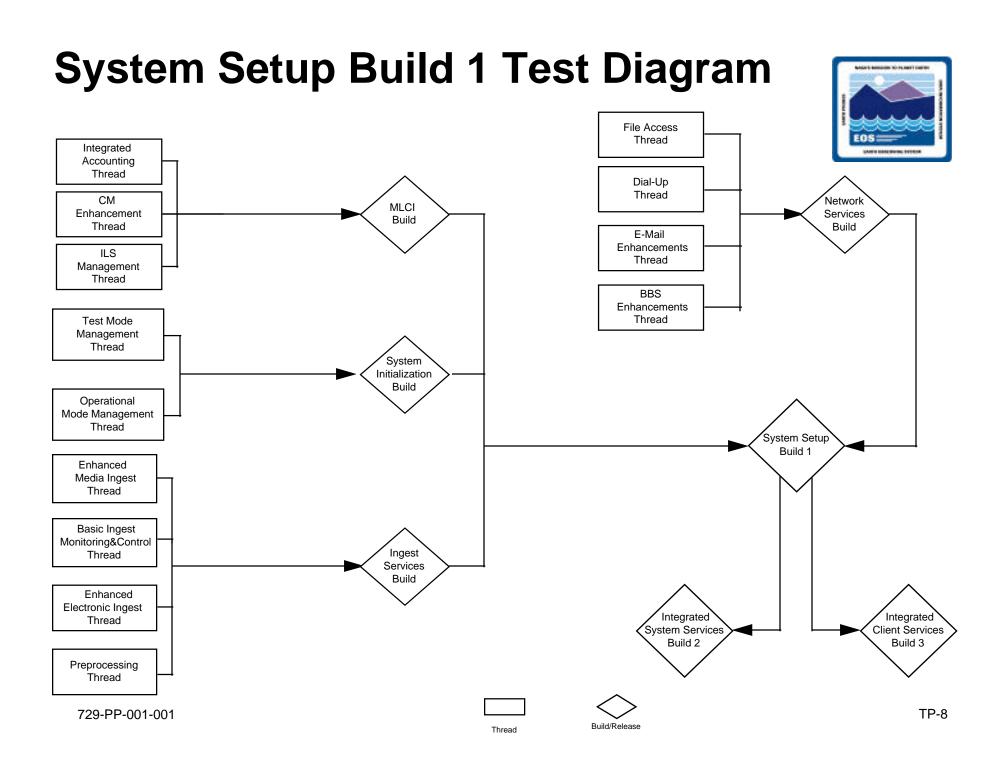
Release B System Build Plan On-demand processing, generate reports, staging queuing across strings, multi DAAC processing Product Enhanced search Generation Search & manipulate Build Services stored data Build Archive/backup data, Sub-setting, sub-Data inventory, Inter sampling, subscriptions, LIM/DIM Access Services Data Server Integrated Data DAAC DAAC interface, AM-1 Management Build 6 Access transfer and receive interface, API interface Build Build Build 4 populate DAACs Accounting, billing, Product estimates, manage Support resources, DAAC Build QA enabling SW Integrated Integrated Integrated Communication roduct Generation Releasè System Services Regression Services & Management Build 2 В Build 7 Build 5 Recombinant Recombinant System Operational mode, Initialization Build test mode Implement policies & procedures, multi System site directory access Security & authorization, Transport files, transfer Monitoring authentication data, error recovery, Services Build network access, dial-up Build System management, enhanced e-mail, BB Integrated System System Setup detailed system Client Services Management Build 1 reports, Build 3 fault and performance Manage network management configuration, monitor & optimize network MLCI Build Client V1 Client, performance, Services workbench, Build inventory training self registration, enhanced display Ingest data from different media. Services different missions & instruments, V0

Recombinant/Regression

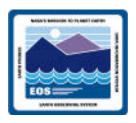
Build/Release TP-7

migration

729-PP-001-001



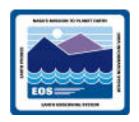
Proposed Release B Implementation Schedule



Available in hard copy only.

729-PP-001-001

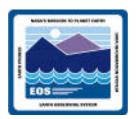
Release B I&T Platform

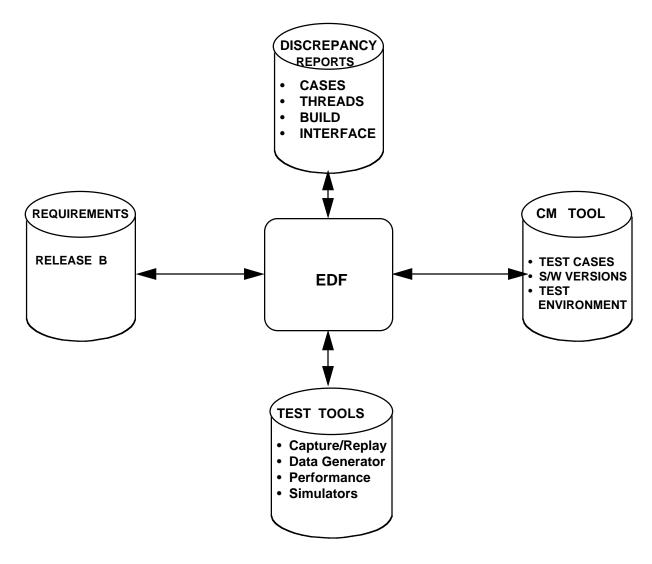


ECS Development Facility (EDF) Test Bed

- Real-Time Integrated System (RITS)
 - Client Workstations
 - Test Manager
 - External Interface Simulators
 - DAAC Simulators
- Mini-DAAC
 - Data Server
 - Planning and Data Processing
 - Local System Management (LSM)
 - System Monitoring and Coordination Center (SMC)
 - Ingest Server

Integrated Test Environment





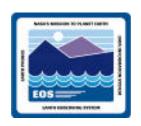
SI&T Tool Suite



Function	Requirement Traceability	Case Tool	Compiler	Office Auto- Mation	Discrepancy Reporting	Capture/ Replay Tool	Network Analyzer/ Monitor	Network Management	Performance	Memory Tool	Tools Under Consideration
Selected Tool	RTM	IDE Software Through Pictures	C++	Microsoft Office	DDTS	XRunner	Sniffer Network Analyzer	OpenView	Netperf LoadRunner	Purify/ Pure Coverage	OPNET McCabe Battlemap
	Configuration Management (ClearCase)										
Repository Data	Requirements	Software Design	In-House Developed Test Software	Test Plans Test Reports Documents	Discrepancy Reports DR Status	Test Scripts	Network Analysis Results	Network Status History	Performance Analysis Results	Memory Analysis Result	Test Results
	ECS Internal Interface Simulators Being Developed										
	TRMM SOURCE TSDIS SINK PGE						RITS			Performance Monitoring/ Reporting	

HITC Developed Tools

Release B I&T Data Requirements



Data to support the following:

TRMM - CERES, LIS, VIRS, PR, TMI

EOS AM-1 - ASTER, CERES, MISR, MODIS, MOPPIT

Landsat 7 - ETM+

FOO - COLOR

ADEOS II - SeaWinds

ALT RADAR - MR, DFA

ACRIMSAT - ACRIM

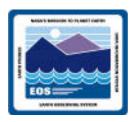
METEOR - SAGE III

ERS-1&2 - SAR

JERS-1 - SAR

RADARSAT - SAR

Release B Test Data Needs



Goals:

- •To work with the Science Office to determine the fidelity of the datasets
 - To identify characteristics, source and formats
- Baseline target list of datasets before CDR
 - Work with the TDS working group (Dr. Reber) to define the target list
- Need a good sampling of datasets by October 1996
 - Reuse test datasets from Release A testing